4. 0 LICENSE RENEWAL

In the 1997 report of the President's Committee of Advisors on Science and Technology (PCAST), nuclear energy was identified as one of the prominent energy technologies that could contribute to alleviate global climate change and also help in other energy challenges including reducing dependence on imported oil, diversifying the U.S. domestic electricity supply system, expanding U.S. exports of energy technologies and reducing air and water pollution. DOE and industry concur with this perspective and believe that in order to realize the benefits of nuclear energy for the Nation, it is important that a very high percentage of today's current plants renew their licenses and continue to operate safely and economically for a full 60 years.

Licenses for U.S. nuclear power plants will begin to expire in large numbers in 2010; 13 plants representing some 11,700 MWe will go off-line in 2014 alone. While license renewal is primarily a business decision by the plant owner, continuing the operation of a most or all of the nation's nuclear power plants clearly serves several vital national interests associated with energy security, environmental quality, and economic strength.

This chapter, in the original 1998 version of this Plan, was concerned with the demonstration of the license renewal process. At that time, no U.S. plant has formally applied for license renewal, and industry and DOE anticipated that the regulatory process for license renewal would be costly and protracted. In order to facilitate license renewal applications, this part of the Joint R&D plan was intended to reduce the uncertainty in the licensing process through support for four design-specific demonstration plant applications. Although the license renewal process has moved forward successfully, there are opportunities to further enhance the process. On balance, however, it is clear that Joint DOE-EPRI funding is not needed to encourage individual license renewal applicants, and that no license renewal process-specific R&D activities or funding support are needed from DOE and EPRI at the present time. Rather, joint DOE and EPRI efforts should be focused on the technical issues and technology enhancements that better ensure safe and economic plant performance for a full sixty years.

Therefore, no funding has been provided for activities within the scope of Chapter 4 as defined, and none is anticipated in the short term. However, this chapter is being retained in the Plan as a "place-holder" to account for the possibility that a future update to this plan might require joint funding to support some generic aspect of the licensing process. All R&D that supports license renewal indirectly (aging management technologies and generation optimization technologies) are covered in Chapters 3 and 5, respectively.

The Center for Strategic and International Studies issued a report in August 1999 on Regulatory Reform at NRC. One of the key issues identified in that report was License Renewal. The report expressed concern about the ability of NRC to process a very large number of applications in a relatively short time period over the next 5-6 years. "NRC should be prepared to meet the goal that no plant that applies in a timely manner and is materially worthy of a renewed license, will have to forego license renewal because of NRC processes, schedules, or resource constraints." The report recommended increased efforts to resolve remaining process and technical issues on a

generic basis, efforts toward a more streamlined, standardized and risk-informed process; and greater attention to focusing the process on risk-significant systems, structures and components.

Current License Renewal Activities

The Nuclear Energy Institute (NEI) License Renewal Working Group provides overall industry leadership and NRC interface on all License Renewal issues. It works closely with the EPRI Life Cycle Management (LCM) Subcommittee, and the associated EPRI LCM Program, as a key mechanism for addressing any remaining technical issues or opportunities for improved technical information to streamline the process. Other EPRI committees providing technical support include the PWR Materials Reliability Project and the BWR Vessel Internals Project. In addition, all the NSSS Owners Groups maintain license renewal activities addressing both technical and licensing issues, coordinated with NEI.